



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,412	11/13/2003	Ranjeta Singh	5038-336	2039
32231 7590 11/13/2007 MARGER JOHNSON & MCCOLLOM, P.C. - Intel 210 SW MORRISON STREET, SUITE 400 PORTLAND, OR 97204			EXAMINER HO, DUC CHI	
			ART UNIT 2619	PAPER NUMBER
			MAIL DATE 11/13/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/714,412	<b>Applicant(s)</b> SINGH ET AL.	
	<b>Examiner</b> Duc C. Ho	<b>Art Unit</b> 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2007.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "said module" in line 1. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Yavatkar et al.(US 2003/0128668), hereinafter referred to as Yavatkar, in view of Putzolu (Software API framework implementation agreement-IDS record).

Regarding claim 1, Yavatkar discloses distributed implementation of control protocols in routers and switches. Figure 2 discloses an architecture of a router 20.

*at least one control processor* (the control-plane 22 of the router 20-fig.2 includes a processor 23-fig.2, see 0015-0016);

*at least one forwarding processor* (the router 20-fig 2 also includes a forwarding processor 25, see 0017);

*at least one ingress interface for connecting the network device to a network* (the physical ports 28-fig.2 are the ingress interface, see 0018);

Yavatkar, however, does not teach a virtual interface interposed between the control processor and the ingress interface to receive a packet from the ingress interface, and determine if it is compatible with an operating system running on the control processor, and, if necessary, convert it to a compatible format for the operating system.

One skill in the art would recognize the advantage of employing a virtual module functioning as a packet handler to provide a path for applications to send and receive packets through forwarding elements, and to binds packets of particular protocols to particular physical or logical ports as needed.

Putzolu discloses software API framework implementation agreement. The packet handler-fig.4 provides a path for applications to send and receive packets through forwarding elements, and binding the protocol of the packets to particular physical or logical ports as needed, see 3.2.1 to 3.3.3, page 10.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine Putzolo with Yavatka.

The suggestion/motivation for doing so would have been to provide a path for applications to send and receive packets through forwarding elements, and to bind the protocol of the packets to particular physical or logical ports as needed.

Therefore, it would have been obvious to combine Putzolo with Yavatka to obtain the invention as specified in claim 1.

Regarding claim 2, in Yavatkar the device 20-fig.2 is a router, see 0015.

Regarding claim 3, in Yavatkar the device could be a switch.

Regarding claim 4, the processor 23-fig. 2 and forwarding processors of Yavatka could be configured to run different protocols or operating systems, see 0029.

Regarding claim 5, in Putzolo the packet handler could be constructed and arranged to receive a packet from the processor 23-fig.2 of Yavatka, and processing the packet in accordance with the required protocol, see Putzolo at 3.3.1-page 10, and 5.2-page 14.

Regarding claim 6, in Yavatka one of the physical ports 28-fig.2 is an egress interface, see 0018.

Regarding claim 7, in Putzolo the packet handler could be further constructed and arranged in such a way to select an appropriate control port to receive the packet.

Regarding claim 8, the router of Yavatka could be adapted to include processors using broad categories of protocols taught by Putzolo, and the packet handler of Putzolo could be constructed and arranged to direct packets to one of the control processors in accordance with the required protocol, see Putzolo at 3.3.1-page 10.

Regarding claims 9-15, these claims have similar limitations as claims 1-4, 8, 5-6, respectively. Therefore, they are rejected under Yavatka-Putzolo for the same reasons set forth in the rejection of claims 1-4, 8, 5-6.

Regarding claim 16, the claim has similar limitations as claim 1. Therefore, it is rejected under Yavatka-Putzolo for the same reasons set forth in the rejection of claim 1.

Regarding claim 17, in Yavatka a packet can be forwarded to another device on the network.

Regarding claim 18, in Yavatka the router 20-fig.2 is used for routing the data packet.

Regarding claim 19, the router of Yavatka could be adapted to include processors using broad categories of protocols taught by Putzolo, and the packet handler of Putzolo could be constructed and arranged to direct packets to one of the control processors in accordance with the required protocol.

Regarding claim 20, the claim has similar limitations as claim 16. Therefore, it is rejected under Yavatka-Putzolo for the same reasons set forth in the rejection of claim 16. The processor 23-fig. 2 of Yavatka could be configured to execute instructions to perform the steps of the claim.

Regarding claim 21 the claim has similar limitations as claim 16. Therefore, it is rejected under Yavatka-Putzolo for the same reasons set forth in the rejection of claim 16. The instructions to be executed should be stored in a computer-readable medium.

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Ho whose telephone number is (571) 272-3147. The examiner can normally be reached on Monday through Thursday from 7:30 am to 6:00 pm.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on (571) 272-2988.

7. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2619

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner



Duc Ho

11-01-07